

22210

105/51, 500, 100, 100/008
A055/A033

High-frequency telephony system

stability coefficient was chosen equal to 2.6. The collector loads are formed by tuned IC-circuits. A crystal resonator is connected in series with the positive feedback circuit. The auxiliary generators differ from the main one inasmuch as they contain no crystal generator in the positive feedback circuit, and the parameters of their IC-circuits are not the same. The generator for channel 1/3 is a 6.4 kc carrier generator. Another particularly important junction point of the system is the group repeater used in unattended stations. The principal features of this transistorized four-stage amplifier (also connected in a common-emitter arrangement) are the linearity of the response and the low level of noises. The thorough design of the whole system made it possible to reduce the noise in the repeaters to a sufficiently low level (not exceeding - 14.5 neper in the band of one channel). The frequency and amplitude characteristics of the repeater are reproduced in the article, as well as its connecting diagram. Thanks to the use of transistors, the whole set for the three-channel system is highly economical, the total average current drain being only 45 ma in the intermediate stations, and 120 ma in the terminal ones, which corresponds, at 24 volts, to less than 1 watt per channel. There are 6 figures, 1 table and 2 Soviet-bloc references.

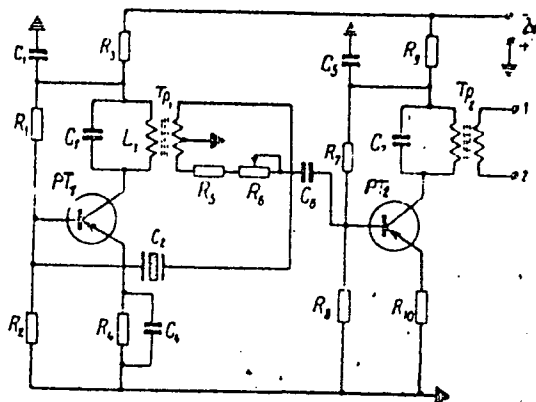
SUBMITTED: June 22, 1960

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High-frequency telephony system

22210
S/106/61/000/001/006/008
A055/A033

Figure 2:



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SUKHODOYEV, I.V., inzh.

New three-channel apparatus of high-frequency district communication systems. Vest. svyazi 21 no.1:8-10 Ja '61. (MIRA 15:5)
(Telephone)

SUKHODOYEV, V.S., assistant

Signaling of the clearance of a switch sector by the tail
end of an incoming train. Avtom., telem. i sviaz' 9 no.3:41-42
Mr '65. (MIRA 18:11)

1. Kafedra "Zheleznodorozhnyye stantsii i uzly" Leningradskogo
instituta inzhenerov zheleznodorozhnogo transporta.

SUKHODOYEVA, G.S.

Study of the natural focus of Q fever in the mountainous region
of Trans-Ili Ala-Tau. Zdrav. Kazakh. 21 no.8:54-59 '61.
(MIRA 14:9)

1. Iz Instituta krayevoy patologii AN Kazakhskoy SSR.
(TRANS-ILI ALA-TAU--Q FEVER)

SUKHODOYEVA, G.S.

Studies on a natural focus of Q-fever in Trans-Ili Alatau.
Zhur. mikrobiol., epid. i immun. 33 no.7:28-32 J1 '62.
(MIRA 17:1)

1. Iz Instituta krayevoy patologii AN Kazakhskoy SSR i
Instituta epidemiologii i mikrobiologii imeni Gamalei AMN
SSSR.

SUKHODOYEVA, G.S.

Characteristics of the properties of *Rickettsia burneti* from
a natural focus in southern Kazakhstan. Zhur. mikrobiol. epid.
i immun. 40 no.5:84-89 My '63. (MIRA 17:6)

1. Iz Instituta krayevoy patologii AN Kazakhskoy SSR i Instituta
epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

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OTHER: 000

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001653810020-5"

SOV/70-4-4-14/34

AUTHORS: Ioffe, Yu.K. and Sukhodrev, A.M.

TITLE: A Scintillation Counter for Soft X-rays and Certain Results of its Application in a Fast-operating Diffractometer

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 554-562 (USSR)

ABSTRACT: A scintillation counter and new electric circuits have been fitted to the URS50I diffractometer increasing its speed by a factor of 8 and its accuracy by a factor of 3. The chief difference is the replacement of the Geiger counter with a dead time of $\sim 1 \mu s$ by a NaI(Tl) scintillation counter with a deadtime of 1-10 mps.

The maximum count rate of the latter is about $10^6/\text{sec}$ and the luminosity of contemporary X-ray tubes is too low to use this speed properly. The advantages of the scintillation counter are: 1) resolving time of $\sim 0.25 \mu s$, permitting a count rate of 50 000/sec; 2) near 100% efficiency as against 45% for CuK_α and a Geiger tube; 3) energy discrimination. A serious difficulty with the scintillation counter is that background pulses from

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SOV/70-4-4-14/54
A Scintillation Counter for Soft X-rays and Certain Results of its
Application in a Fast-operating Diffractometer

thermally-emitted electrons are of the same height as those it is required to count. A diagram of the geometry used with an FEU-29 photomultiplier is shown. The crystal is cut into a disc 2 mm thick, operations being performed in a dry atmosphere. A 0.2 mm thick Be window is used with a 1 μ Al foil for reflecting the light. The window diameter is 30 mm. The photomultiplier has a sensitivity of 16 photoelectrons per 100 light quanta, the background pulses are less than 12 mV and the resolution is better than 8.5%.

The counters were tested in the diffractometer with Cr, Cu and Mo radiation monochromatised by reflection from a quartz crystal. Two methods were used for separating signal impulses from the background: a) by pulse height on an oscillograph screen and b) by pulse height discriminator circuits with a channel width of 1.5 V. The efficiencies were 75%, 90% and 98% for Cr, Cu and Mo radiations, respectively. The background was about 0.5 counts per sec. For the three wavelengths, the

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A Scintillation Counter for Soft X-rays and Certain Results of its
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efficiencies are 1.2, 2.5 and 10 times better than for an argon-filled Geiger counter. A block diagram of the electrical circuits of the diffractometer is given. An overall increase in speed of eight times in the operation of the diffractometer was achieved together with gains in reliability and stability. The detection of weak lines is three times better. Specimen diffractograms are reproduced showing the improvements. Acknowledgments are made to M.I. Teumin. There are 5 figures and 11 references, of which 7 are Soviet, 1 German and 3 English.

SUBMITTED: November 19, 1958

Card3/3

L 28861-66 EMP(k)/EWI(m)/I/EWA(d)/ENP(t)/ETI IJP(c) DJ/JD/HW

ACC NR: AP6010497

SOURCE CODE: UR/0201/65/000/003/0093/0095

AUTHOR: Severdenko, V. P.; Muras, V. S.; Sukhodrev, E. Sh.

ORG: none

TITLE: Butt-free extrusion of tool steels *46*

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 3, 1965, 93-95 *42*

TOPIC TAGS: tool steel, metal extrusion, hot die forging, solid lubricant /
9KhS tool steel, R18 tool steel *8*

ABSTRACT: Hot extrusion usually is accomplished in such a way that at the end of the process of deformation a part of the forging (the butt) always remains in the container and die under the punch (Fig. 1). In most cases the butt is a production waste which must be removed after the product is ejected from the die assembly. This restricts the possibilities for using such a highly effective forming method as hot extrusion, particularly as regards the fabrication of intricate shapes from expensive alloys and high-alloy steels. In this connection, the authors developed a method of butt-free hot extrusion of solid and hollow shapes from structural and high-alloy tool steels (9KhS, R18, etc.). The principle of this method is as follows: an intermediate link or "insert" (Fig. 2) is placed in between the punch and the forging; the height of the insert is not lower than that of the die. The material of this insert

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ACC NR: AP6010497

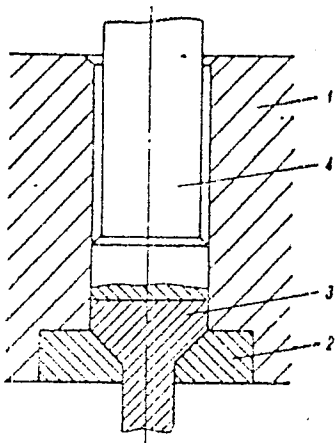


Fig. 1. Schematic of butt-involving extrusion:

1 - container; 2 - die; 3 - butt;
4 - punch

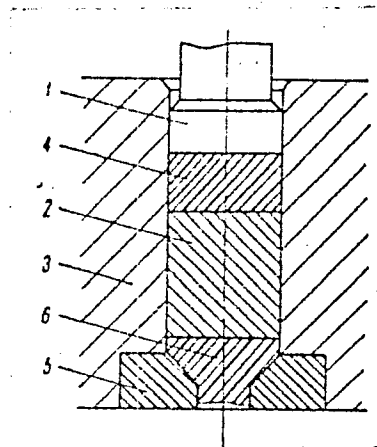


Fig. 2. Schematic of butt-free extrusion:

1 - punch; 2 - forging; 3 - container;
4, 6 - inserts; 5 - die

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L 28851-66

ACC NR: AP6010497

must withstand considerable loads without a change in its properties, its strength should be lower than the strength of the extruded metal and it should display the qualities of a lubricant. So far, of the materials investigated for this purpose, the best results were displayed by a graphite-clay-silica mixture subjected to thermal or chemical hardening after its molding; remains of the carbon electrodes of electric arc furnaces also are suitable. This development not only assures a successful butt-free hot extrusion but also displays other positive aspects. Thus, early during the extrusion part of the "insert" flows into the gap between the punch and the container and, throughout the distance traveled by the punch, provides a uniform layer of lubricant which completely precludes jamming of the punch. Toward the end of the extrusion the material passes through the die and disintegrates into powder, which facilitates its removal for re-use. This technique also improves the conditions for automating the process of hot extrusion. Further, owing to the attendant improved lubricability of the die and product surfaces and shorter time of contact between the product and the die, galling is reduced and thus the wear of die also is reduced while the dimensional stability and surface quality of the extruded products are at the same time improved. With the aid of this technique the authors successfully hot-extruded solid and hollow reamers of 9KhS, R18 and 40Kh steels in crank presses. It turned out that this technique assures metal savings of 30-70%, reduces production cost, increases productivity, and markedly improves the quality of the tools (reamers, countersinks, screw taps) thus extruded. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 002

Card 3/3

SUKHODROV, M. B.

Sukhodrov, M. B. "From the personal recollections on Academician M. N. Burdenko
(Period of the Great Fatherland War)," Gravookhraneniya Sov. Latvii, 1946, Symposium 2,
p. 166-70

SO: W-3850, 16 June 63, (Letonskie 'Zhurnal 'nykh Statey, No. 5, 1949)

SUKHODREV, M.B., redaktor

[Asia; physical map] Azia; fizicheskaja karta. Otvetstvennyi
redaktor Sukhodrev, M.B. Moskva, 1949. (MLRA 7:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodesii i
kartografii.
(Asia--Maps, Physical)

SUKHODREV, M. B.

YUSTUS, A.I., redaktor; SUKHODREV, M.B., redaktor

[Europe; political map. School map of January 1, 1948] Evropa:
politicheskaya karta. Uchebnaya karta 1 ianv. 1948. Otvetstven-
nye redaktory Iustus, A.I. i Sukhodrev, M.B. Moskva, 1949.
(MLRA 7:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodesii i
kartografii.
(Europe--Maps)

SUKHODREV, A.B., redaktor

[Europe; political map. School map of January 1, 1950] Evropa:
politicheskaya karta. Uchebnaya karta 1 ianv. 1950 g. Otvetstven-
nyi redaktor Sukhodrev, M.B. Moskva, 1951. (MLRA 7:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodesii i
kartografii.
(Europe--Maps)

LAPSHINA, T.M.; SOLDATOV, S.N.; SUKHODREV, M.B.

Representing settlements on school geography maps. Geod.i kart.
no.7:50-60 S '56. (MLRA 9:11)

(Cartography)

SUKHODREV, M.B.; BLYUGER, A., red.; MIRONOV, A., tekhn. red.

[Baldone Health Resort] Kurort Baldone. Riga, Latviiskoe gos.
izd-vo, 1959. 63 p. (MIRA 14:12)
(BALDONE—HEALTH RESORTS, WATERING PLACES, ETC.)

ROSTOTSKIY, I.B., dotsent; SUKHODREV, M.B.

Problems of health protection for women in specialized Russian
literature. Sov. zdrav. 19 no.6:82-86 '60. (MIRA 13:9)
(WOMEN—HEALTH AND HYGIENE)

SUKHODREV, M.B. (g.Klimovsk, Moskovskoy oblasti)

Nikolai Aleksandrovich Gerasimov and his role in the development
of industrial medicine in Moscow Province. Fel'd i akush. 25
no. 10:42-46 0 '60. (MIRA 13:10)
(GERASIMOV, NIKOLAI ALEKSANDROVICH, 1879-1943)

SUKHODREV, M.B. (Klimovsk, Moskovskoy oblasti)

Thirty-five years of service to the people, to Soviet public health.
Sov. zdrav. 21 no.4:35-39 '62. (MIRA 15:5)
(PUBLIC HEALTH)

SUKHODREV, M.B.

Eva Vikent'evna Diatchik. Med. sestra 21 no.4:57-58 Ap '62.
(MIRA 15'4)

(DIATCHIK, EVA VIKENT'EVNA)

SUKHODREV, M.D.

Methodology of processing the materials of high-speed motion-
picture photography of water jets. Zap. LGI 41 no.1:91-93 '59.
(MIRA 16:5)

(Jets--Fluid dynamics)
(Motion-picture photography, High-speed)

SUKHODREV N.K.

MANDEL'SHTAM, S.L.; SUKHODREV, N.K.

Elementary processes in the spark discharge channel. Zhur. eksp.
i teor. fiz. 24 no. 6:701-707 Je '53. (MLRA 7:10)
(Electric spark) (Electric discharges through gases)

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APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001653810020-5"

MANDEL'SHTAM, S.L.; SUKHODREV, N.K.

Applicability of Kirchoff law to the emission of gaseous discharge plasma. Izv. AN SSSR Ser. fiz. 19 no.1:11-14 Ja-F '55.
(MIRA 8:9)

1. Fizicheskiy institut imeni P.N. Lebedeva Akademii nauk SSSR
(Spectrum analysis) (Spectrometer)

24(7)

PHASE I BOOK EXPLOITATION

309/1700

1. Phys. Ultraviolet

Materials of the 10th All-Union Conference on Spectroscopy, 1956.

2. III Mezhdunarodnaya spektroskopicheskaya konferentsiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy)
 Goryunov, L. V. (ed.). 1956. 368 p. (Series: Itogi nauki i tekhnologii, seriya "Fizika i khimiya".) 3,000 copies printed.

3. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.

4. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 M. S. Rapoport, Doctor of Physical and Mathematical Sciences;
 I. L. Pavlenko, Doctor of Physical and Mathematical Sciences;
 V. A. Kozlovskiy, Doctor of Physical and Mathematical Sciences;
 V. G. Korotkiy, Candidate of Technical Sciences; L. K. Eliseyevskiy,
 Candidate of Physical and Mathematical Sciences; V. S. Milyanchuk
 (deceased), Doctor of Physical and Mathematical Sciences; A. Ye.
 Glushchenko, Doctor of Physical and Mathematical Sciences;
 M. I. S. L. Gerasimov, Tech. Sci. T. V. Savitskiy.

5. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

6. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This volume contains 177 scientific and technical studies of atomic spectroscopy presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies are divided into three parts: atomic spectroscopy, molecular spectroscopy, and spectroscopy of solids. The studies cover many phases of spectroscopy: spectra of rare earths, astrophysical radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharges, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

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Materials of the 10th All-Union Conference (Cont.) 309/1700

7. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

8. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

9. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

10. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

11. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

12. Mezhdunarodnaya konferentsiya po spektroskopii
 Akademiya nauk SSSR. Komissiya po spektroskopii.
 This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

Card 10/31

Electrical Contacts (Cont.)

SOV/1855

apparatus primarily influencing the reliability of electric systems, especially d-c control systems. Their physical, thermal, mechanical and chemical processes have still not been well analyzed. References are given at the end of most of the reports.

TABLE OF CONTENTS:

Foreword

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I. PHYSICAL PROCESSES

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Kragel'skiy, I.V. (Institut mashinostroyeniya AN SSSR - Machine-Building Institute, Academy of Sciences, USSR) Contact Area of Rough Surfaces

7

According to the author, ideal smooth surfaces of mica protrusions measure 20 A, on the best quartz crystal 100 A, on highly polished metal surfaces 0.05 - 0.1 micron, and on rough metal surfaces 100-200 microns. Moreover, the machined surfaces usually have a wavy structure. The author has devoted his paper to finding methods of calculating the actual area of contact of surfaces. After a detailed theoretical and practical analysis he derives formulas for practical use by designers. There are 6 references, of which 5 are Soviet and 1 English.

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Electrical Contacts (Cont.)

SOV/1855

Afanas'yev, N.V. (Belorusskiy politekhnicheskiy institut - Belorussian Polytechnical Institute) Erosion of Electric Contact Materials

50

The author reports results of experimental investigation carried out by him at the Belorussian Polytechnical Institute on the influence of thermal characteristics of some metals on their ability to withstand erosion. He supplies tables which enable designers to make advance judgements of the erosion resistance of a material by knowing its thermal parameters.

Razumikhin, M.A. Increasing the Erosion Resistance of Low-current Contacts in Automatic Apparatus

63

The author reports the results of experimental investigation of spark and arc or bridge erosion under operating conditions for various contact metals, air pressure and various gas mediums. He also discusses 5 quench circuits (spark discharge circuits) used under low-current conditions.

Pugin, A.I. (Institut metallurgii - Institute of Metallurgy, Academy of Sciences, USSR) Function of Electric Contact in the Process of Forming a Welded Joint

79

The author details his investigation of this problem. The total resistance in the welding process consists of the resistances of the two parts
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Electrical Contacts (Cont.)

SOV/1855

Fiks, V.I., and M.A. Gurevich. (Zavod "ATE-1" -Moscow "ATE-1" Plant)

156

Contacts of Vibrator Voltage Regulators

The authors summarize the results of investigations they carried out in the Electric Machine Laboratory of the "ATE-1" Plant along with Engineers Ye.K. Shvedov, V.I. Khrunin, Ya.M. Levit, L.B. Bayer, R.V. Gorelov, O.G. Suchkova on operating conditions of contacts in vibrator voltage regulators of automobile generators, on the design of contact fittings and on various pairs of contact metals.

III. PRODUCTION AND CHARACTERISTICS OF CONTACT MATERIALS

171

Al'tman, A.B., I.P. Melashenko, and E.S. Bystrova (Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti - Scientific-Research Institute for the Electrical Industry) Modern Sintered-Metal Electric Contacts.

171

Sintered metals are presently the most suitable materials for arcing tips of high-duty circuit-breakers. The authors explain the technical requirements, describe the structure of the compositions, methods of production, characteristics and applications.

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Electrical Contacts (Cont.)

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- Dekabrun, I.Ye. 'Institute of Automation and Telemechanics, Academy of Sciences, USSR)
 Characteristics of Some Sintered Metal Contact Materials 244
 The author describes arrangements and equipment he has used in this investigation. He gives the results of the study as well as the characteristics of the most used composition.
- Shumskaya, Ye.A. (NII - Avtopriborov) Wear Resistance of Tungsten Contacts 239
 The author describes her investigation of cut tungsten contacts relative to the effect of internal structure and method of production on resistance to wear.
- Usov, V.V. and Povolotskaya, M.D. (Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti - Scientific-research Institute for the Electrical Industry) Atmospheric Corrosion in Tungsten Contacts 249
 A description of experiments on the above problem is presented.
- Rudnitskiy, A.A. (Institut metallurgii AN SSSR - Metallurgical Institute, Academy of Sciences, USSR) Alloys of Precious Metals as Electric Contact Materials for Very Low Voltages and Currents 255
 The author analyzes the characteristics and resistance to corrosion and mechanical wear of various alloys composed of metals.
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Electrical Contacts (Cont.)

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Kozlov, V.Z. State of the Production and Standardization of Contacts and Contact Materials From Precious Metals

293

The author describes briefly the developments obtained in the production of contacts made from alloys of precious metals. Considering the great number of contact and contactor types, the author expresses the opinion that a standardization of types is necessary. He suggests the creation of a special organization for the coordination of scientific research activities on contacts of all kinds and the standardization of metals and alloys used in these.

Discussion

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In the general discussion participated besides the authors of the above articles, L.S. Palatnik (KhGU), R.S. Kuz'netsov (NII EP), Ye.V. Podol'skaya (Khar'kovskiy elektromekhanicheskiy zavod - Kharkov Electromechanical Plant), N.Ye. Lysov (MEI), I.G. Kislyakov (Moskovskiy institut tsvetnykh metallov i zolota - Moscow Institute for Nonferrous Metals and Gold), M.N. Tylkina (IMET AN SSR), L.A. Rotshteyn (Zavod "Elektrosita" - "Elektrosila" Plant, L.M. Voronel' (Cheboksarskiy elektroapparatnyy zavod - Cheboksary Electric Apparatus Plant), P.V. Smirnova.

Conference Resolutions

AVAILABLE: Library of Congress

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JP/sfm

8-20-59

SUKHODREV, N. K. Cand Phys-Math Sci -- (diss) "On the excitation of spectra in spark discharges." Mos, 1959. 12 pp (Acad Sci USSR. Physics Inst im P. N. Lebedev), 150 copies. Bibliography at end of text (12 titles) (KL, 52-59, 116)

SOV/ 51-6-6-2/34

24(3), 24(7)

AUTHORS: Sukhodrev, N.K. and Mandel'shtam, S.L.

TITLE: On the Temperature of Electrode Vapours in a Spark Discharge
(О температуре паров электродов в искровом разряде)

PERIODICAL: Optika i spektroskopiya, 1959. Vol 6, Nr 6, pp 723-728 (USSR)

ABSTRACT. Vapour temperatures in a spark are usually assumed to be equal to electron temperatures of atoms and ions of the vapour. Electron temperature can be determined from the relative intensity of two or more spectral lines, provided atoms are distributed in excited levels according to Boltzmann's law. Earlier measurements (Refs 2, 3) yielded values $\sim 10\,000^\circ\text{K}$ for temperatures of electrode vapours in electric sparks; these values refer to colder (outer) parts of vapour clouds ("flames"). The present paper discusses determination of temperatures in hotter parts of vapour clouds. Al III, Sn IV and Si IV lines were used (Table 1). Aluminium, tin and silicon were used because their atoms have sufficiently high ionization and excitation potentials to allow determination of temperatures above $10\,000^\circ\text{K}$. A glass spectrograph ISP-51 was used for Al III lines (visible region) and a quartz spectrograph ISP-22 was used for Sn IV and Si IV lines (ultraviolet region). The apparatus used is shown in Fig 1. The image of a spark S_1 was focused on a spectrograph slit via an intermediate slit d , a concave mirror O_2 and a rotating plane

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On the Temperature of Electrode Vapours in a Spark Discharge

mirror M_1 . The latter was rotated at 1-3 mm/sec producing a time scan (display) of the spark on a recording film in the spectrograph. The time resolution of the spark spectra ranged from ~ 0.04 to $0.1 \mu\text{sec}$. Sparks were synchronized with rotation of M_1 by means of a device, shown at the bottom of Fig 1, which ensured that a spark at S_1 was produced when the image of S_1 was focused at the spectrograph slit. The spark discharge circuit parameters were: $C = 0.01-1 \mu\text{F}$, $L = 2-3000 \mu\text{H}$. The voltage across the spark gap S_1 was 15 kV and the distance between electrodes was 2.5 mm. A record of a spectrum obtained between tin electrodes is shown in Fig 2; it contains Sn IV, Sn I, N II and O II lines. The results are given in Tables 2-6. Table 2 refers to sparks between tin electrodes (Sn IV lines). The results of Table 3 (Sn IV lines) were obtained with one tin and one copper electrode. Table 4 gives temperatures deduced from Sn IV and N II lines. Table 5 gives the results obtained with one aluminium or 10%-Al bronze electrode (Al III lines). Table 6 gives temperatures deduced from experiments with "silumin" electrodes containing 10% Si (Si IV lines). The temperatures deduced from Sn IV lines were $\sim 28000^\circ\text{K}$, from Al III lines they were 30000°K and from Si IV lines they were 35000°K . Because of high scatter of the results

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On the Temperature of Electrode Vapours in a Spark Discharge

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it was impossible to say whether the differences between these three sets of temperatures were due to a definite cause or accidental. Since the spark-channel temperature, deduced from N II and N III lines, is $\sim 35\,000^\circ\text{K}$, the results obtained suggest that tin, aluminium and silicon vapours were heated and excited in the spark channel itself. Acknowledgments are made to L.P. Malyavkin and V.K. Bardin for their help in experimental work. There are 3 figures, 6 tables and 13 references, 6 of which are Soviet, 2 English, 1 German and 4 international.

SUBMITTED: July 8, 1958

Card 3/3

... SUKHODREV, N.K. ...

Spectrum excitation in a spark discharge. Trudy Fiz. inst.
15:123-177 '60. (MIRA 14:7)
(Electric discharges through gases)

S/504/61/015/000/002/002
B102/B104

24.6200 (1482, 1160)

AUTHOR: Sukhodrev, N. K.

TITLE: Spectrum excitation in a spark discharge

PERIODICAL: Akademiya nauk SSSR. Fizicheskii institut. Trudy, v. 15,
1964, 123 - 177

TEXT: This dissertation for the degree of Candidate of Physical and Mathematical Sciences, written under the supervision of Professor S. L. Mandel'shtam, Doctor of Physical and Mathematical Sciences, was defended at the Fizicheskii institut im. P. N. Lebedeva AN SSSR (Physics Institute imeni P. N. Lebedev, AS USSR) on December 21, 1959. The purpose of the investigations, which were carried out in the laboratoriya spektroskopii FIAN (Spectroscopy Laboratory of FIAN), was to clarify the excitation mechanism of the spectrum - the ionization and the excitation of air atoms and of the atoms of the vapors of the electrode material. Measurements were only made on spark discharges in air under atmospheric pressure. The dissertation is divided into

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B102/B104

Spectrum excitation in a...

four chapters: 1) Elementary processes of excitation and ionization of atoms in the spark channel (review of publications, discussion of the hydrodynamical theory of the development of the spark channel, developed at FIAN; discussion of theoretical results); 2) description of the measuring technique and of the experimental arrangement used to measure the temperature in the spark discharge (arrangement and electronic equipment are shown in Figs. 4 and 5. ИСП-51 (ISP-51) and ИСП-22 (ISP-22) spectrographs were used. Pictures were taken with Agfa "blaurapid" spectral plates); 3) presentation and discussion of the results of temperature measurements (mean electron temperature, $T_e = 33,000^\circ\text{K}$; description of additional measurements on powerful discharges, carried out jointly with Professor V. V. Burgsdorf and A. S. Maykopar at the test stand of TsNIEL in the Leninskaya podstantsiya Mosenergo (Lenin Branch Station of Mosenergo) with an ИСП-65 (ISP-65) spectrograph; discussion of results); 4) investigation of electrodic processes in the spark discharge (experimental and theoretical; microphotographs). Following are the most important results: 1) The distributions of atoms in relation to excited levels and degree of ionization correspond to Boltzmann's or Saha's formula with the electron temperature as a

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Spectrum excitation in a...

parameter. These distributions are attained after about 10^{-7} sec. Since the gas temperature and electron temperatures are equilibrated within the same time, the plasma in the spark channel is characterized by one single temperature T after about 10^{-7} sec. 2) The temperature in the spark channel was spectroscopically determined from the N II line, both on ordinary discharges produced in the laboratory and on powerful discharges, and was found to vary from 30,000 to 40,000°K. The maximum temperature of the electrode vapors was determined from the lines Al III, Sn IV, and Si IV, and was found to vary from 30,000 to 35,000°K. The temperature values proved to be almost independent of the circuit parameters. These high temperatures of the spark discharge in air by far exceed those of other sources, e. g., flames (1500 - 3000°K) or arc discharges (5000 - 7000°K), and are responsible for the particularities of the spark spectrum, i. e., the exceptional brightness of the lines and the excitation of ionic spectra. The electron concentration ($N_e \approx 10^{17} \text{ cm}^{-3}$) exceeds that in an arc discharge by two orders of magnitude, and entails a line broadening and high intensity of the continuous spectrum. 3) Vapors of the electrode

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Spectrum excitation in a...

material leave the electrodes without emitting visible light, and are only excited in the spark channel. A study of the dynamics of the motion of flares in the spark has shown that a jet is formed on the cathode. The dark space round the electrodes is of the order of 0.2 - 0.3 mm. The author thanks Professor S. L. Mandel'shtam for guidance, V. P. Shabanskiy and L. A. Vaynshteyn for discussing the theoretical part, as well as Senior Scientific Worker S. V. Lebedev, Engineer L. P. Malyavkin, and V. K. Bardin for assistance. S. I. Drabkina, I. S. Abramson, M. M. Gegechkori, S. I. Braginskiy, M. P. Vanyukov, V. I. Isayenko, L. D. Khazov, G. G. Dolgov, A. M. Leontovich, L. P. Malyavkin, N. K. Sukhodrev, A. D. Sakharov, B. M. Yavorskiy, V. A. Fabrikant, L. D. Landau, D. B. Gurevich, V. K. Prokof'yev, D. A. Rozhanskiy, V. I. Zimin, Ye. I. Vorontsov, V. M. Zimin, I. G. Nekrashevich, Lyubimov, S. M. Rayskiy, N. N. Sobolev, B. R. Lazarenko, and A. A. Mak are mentioned. There are 23 figures, 16 tables, and 72 references: 41 Soviet-bloc and 31 non-Soviet-bloc. The two most recent references to English-language publications read as follows: J. M. Somervill, S. T. Grainger. Brit. J. Appl. Phys., 7, 109 (1956); J. M. Somervill et al. Proc. Phys. Soc., 65B, 963 (1952).

Card 4/8

39298

S/048/62/026/007/029/030
B117/B144

24 2430

AUTHORS: Uvarova, V. M., Sukhodrev, N. K., Pankova, A. A.,
Shpol'skiy, M. R., and Kovanova, A. N.

TITLE: New photomaterial of the NIKFI for spectrum analyses in the
short-wave region of ultraviolet radiation

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26,
no. 7, 1962, 967-968

TEXT: This report given at the XIV Soveshchaniye po spektroskopii
(XIV Conference on Spectroscopy) deals with new films for vacuum ultra-
violet radiation. The FM-1L (RM-1L) film with highly sensitive emulsion
sensitized with luminophores had been developed by the NIKFI
(A. O. Kondakhchan) and the Shostkinskiy khimicheskiy zavod (Shostka
Chemical Plant). The УФ-НИКФИ (UF-NIKFI) film little sensitive to
visible light, with an emulsion consisting of highly concentrated silver
halide and small amounts of gelatin, was produced by a method (thin-layer
separation) developed by K. S. Bogomolov, M. Yu. Deberdeyev, A.A.Sirotinskiy
and members of the NIIKhimMASH. The new films, especially UF-NIKFI

Card 1/2

SUKHODREV, N.K.

Exciting spectrum in spark discharge. Acta chimica Hung
30 no.3:285-293 '62.

1. Fizicheskiy institut im.P.N. Lebedeva Akademii Nauk
SSSR, Moskva V-17.

ACCESSION-NR: AP4043038

6/0071/64/009/004/0286/0288

AUTHORS: Kalinkina, T. A.; Kovanova, A. N.; Pankova, A. A.; Sukhodrev, N. K.;
Uvarova, V. M.; Shpol'skiy, M. R.

TITLE: NIKFI photographic materials for the vacuum ultraviolet region of the
spectrum and their characteristics

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 9, no. 4,
1964, 286-288

TOPIC TAGS: ultraviolet photographic film, film characteristic, film sensitivity,
silver halide, / ISP 22 spectrograph, DFS 6 vacuum spectrograph

ABSTRACT: The solution of many problems has been hampered by the lack of photo-
graphic film sensitive to the vacuum ultraviolet (UV) spectrum ($\lambda < 2200 \text{ \AA}$) as a
consequence of strong absorption in the gelatin of the emulsion layer of existing
film. NIKFI developed five types of films sensitive to the far UV and soft x-ray
region by using a new method of preparing photographic emulsion with a high con-
centration of silver halide in which a large portion of the gelatin is replaced
by surface active substances. The five films differed in size of the AgHal micro-
crystals and had different sensitivities. The air-dried emulsion layer $\sim 10 \mu$

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ACCESSION NR: AP4043038

thick was coated on a triacetate base and hardened so that water at temperatures up to 100C did not melt it. The photographic properties of the film (see Table 1 on the Enclosure) were measured in the visible, near UF region ($\lambda \sim 2300 \text{ \AA}$) and vacuum UF region ($2000 \text{ \AA} > \lambda > 200 \text{ \AA}$). The films UF-2 and UF-3 were developed for 8 minutes in developer D-19 at 20C and the other film developed similarly for 4-6 minutes. The standard method of sensitometric measurements was used for the visible region; for $\lambda = 2300 \text{ \AA}$ a mercury lamp in a ISP-22 spectrograph with a nine-stage attenuator was used. Characteristic curves (D versus $\log I_t$) were obtained for all films at $\lambda = 2300 \text{ \AA}$. Films UF-1, UF-2 and UF-3 have low visible sensitivity ideal for "hot" object work. The vacuum UF region was studied using a DFS-6 vacuum spectrograph with a low voltage vacuum spark between titanium electrodes as a light source. The relative spectral sensitivities of films UF-1, UF-2, and UF-3 were obtained at points over the range 200-3000 \AA and the contrast factor for these films for λ 200-800 \AA ranged from 0.7 to 1.0, while the other films had a smaller contrast. The storage properties were good and were maximized by storage in a polyethylene pack at 5-7C (e.g., UF-1 stored two years lost 40% of its sensitivity at $\lambda = 2300 \text{ \AA}$, had no hazing, and preserved its contrast). The preservation of the film was attributed to the high colloidal stability

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ACCESSION NR: AP4043038

of the AgHal microcrystals and the presence of colloidal stabilizers in the emulsion layer. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI)
(All-Union Motion Picture and Photography Scientific Research Institute)

SUBMITTED: 08Oct63

ENCL: 01

SUB CODE: OP,ES

NO REF SOV: 002

OTHER: 000

Card

3/4

TOPIC TAGS: LASER, SPARK, READDOWN, ATD PRESS: 3154

ACCESSION NO.

TOPIC TAGS: LASER, SPARK, READDOWN, ATD PRESS: 3154

TOPIC TAGS: LASER, SPARK, READDOWN, ATD PRESS: 3154

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TOPIC TAGS: LASER, SPARK, READDOWN, ATD PRESS: 3154

TOPIC TAGS: LASER, SPARK, READDOWN, ATD PRESS: 3154

AUTHOR: Mandel'shtam, S. L.; Pashinin, P. P.; ITOENKOV, A. M.; Rayzer, Yu. P.;
Sukhodrev, N. K. 66
B

TITLE: Investigation of a spark in the air due to a focused laser beam. II

NUMBER: Zhurnal eksperimentov i teoreticheskoy fiziki, v. 42, no. 1, 1966,

TOPIC TAGS: gas breakdown, air breakdown, plasma heating, Doppler shift, laser
beam scattering

ABSTRACT: This article is a continuation of an earlier work (S. L. Mandel'shtam,

L 62704-65

ACCESSION NR: AP5019225

indicated that the ionization front moves toward the focusing lens with a velocity of the order of 10^8 cm/sec. The velocity of the front of the scattered light. The notion of the ionized region under these conditions can be explained in terms of three mechanisms: 1) the hydrodynamic mechanism, 2) the light mechanism, and 3) the successive breakdown mechanism. All three mechanisms were fully discussed by Rayzer in an earlier article (ZhETF, 48, 1968, 1969). Under the experimental conditions in which the first mechanism is considered the most probable. Values for the velocity of the ionization wave front 10^8 and 10^9 cm/sec, and the plasma temperature 10^4 and 10^5 K are obtained. The results are compared with the data of other authors.

1. N. N. Lebedev Institute of Physics, U.S.S.R. Academy of Sciences

SEE ALSO 80,ME

100,ME 4055

L 22732-66 FIG(1) LIP(1) AT

ACC NR: AP6018343

SOURCE CODE: GE/0036/66/006/001/0001/0008

AUTHOR: Mandel'shtam, S. L.; Pashinin, P. P.; Prokhorov, A. M.; Rayzer, Yu. P.; Sukhodrev, N. K. 77
E

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Investigation of a spark in air formed during focusing of emission from a laser

SOURCE: Beitrage aus der Plasma Physik, v. 6, no. 1, 1966, 1-8

TOPIC TAGS: ~~laser, nonlinear optics, air breakdown~~ laser emission, plasma decay, laser beam, ruby laser, plasma temperature, line shift, Doppler shift

ABSTRACT: An experimental investigation was conducted of air breakdown produced by a Q-switched ruby laser (pulse energy 2—2.5 j, pulse duration 30 μ sec). The authors analyzed the last two stages of the breakdown process, which according to them can be subdivided into the following three stages: 1) the breakdown stage (rapid increase in the number of free electrons); 2) the quasi-stationary stage (dense plasma is maintained by the absorption of energy of the laser beam); and 3) the afterglow stage (decay of plasma after the laser pulse ceases). From the soft x-ray emission of the plasma (at about 10 \AA) due to continuous recombination of N^{5+} , N^{6+} , N^{7+} , O^{6+} , O^{7+} , O^{8+} the maximum electronic temperature of the plasma in the breakdown region was determined to be ≈ 60 ev. The width of the laser line scattered by the plasma during the second stage was determined to be $\approx 1-1.4$ \AA ; the shifting of the line was found to vary at different positions near the focal region of the laser beam with the maximum shift

Card 1/2

PERMYAKOV, E.S., kand. tekhn. nauk; SUKHODREV, V.M., goimyy inzh.;
GRACHEV, F.G., kand. tekhn. nauk

Roller bit drilling in apatite open-cut mines. Gor. zhur.
no.10:19-22 O '65. (MIRA 18:11)

1. Gornokhimicheskiy ordena Lenina kombinat "Apatit" im. S.M.
Kirova (for Permyakov, Sukhodrev). 2. Gosudarstvennyy nauchno-
issledovatel'skiy institut gornokhimicheskogo syr'ya (for
Grachev).

GRACHEV, F.G., kand. tekhn. nauk; SMIRNOV, V.A., gornyy inzh.; YELIN, S.N., gornyy inzh.; SUKHODREV, V.M., gornyy inzh.; TOROCHKOV, G.S., gornyy inzh.

Using the BSSH-1 roller bit boring machine in apatite strip mines. Gor. zhur. no.8:37-39 Ag '64.

(MIRA 17:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gornokhimicheskogo syr'ya (for Grachev, Smirnov). 2. Kombinat "Apatit" (for Yelin, Sukhodrev, Torochkov).

Sukhodrevn, I. B.

Structures of the nitrates of rare-earth elements. V. I.
Iveronova, V. P. ~~2-16-70~~ ~~12-11-70~~ ~~12-11-70~~
Sukhodrevn, I. B. (M. V. Lomonosov State
University, Moscow) ~~31-12-1969~~ No. 2
CH₃NO₂ (CH₃NO₂)₂ and CH₃NO₂ (where x is
probably 0, 1, 2, 3, and 4 in KN units and n, 1, and 2
in degrees) are: 8.50, 10.67, 8.63, 78.9, 102.1, 92.5;
8.59, 10.82, 9.39, 78.8, 102.0, 91.8; 6.78, 9.29, 11.7, 109,
91, 112.
J. W. Loweberg, Jr.

ACCESSION NR: AT4013982

S/3070/63/000/000/0137/0139

AUTHOR: Abramov, V. F.; Zakharov, V. I.; Sukhodreva, I.M.

TITLE: Attachment to Diffractometer URS-50I for Determining the Orientation of Germanium and Silicon Single Crystals

SOURCE: Novy*ye mashiny*i pribory* dlya ispy*taniya metallov. Sbornik statey. Moscow, Metallurgizdat, 1963, 137-139

TOPIC TAGS: germanium crystal orientation, silicon crystal orientation, crystallographic plane, diffractometer, metal crystal, crystal orientation

ABSTRACT: The use of ionization methods for registration of reflected X-rays permits a faster determination of crystallographic orientation of single crystals. G. F. Komovskiy and L. A. Voskresenskaya applied the URS-50I diffractometer for determination of orientation of germanium single crystals, and obtained a precision up to 30', provided that deviations of the crystallographic plane from the outer face of specimen were not greater than 6°.

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ACCESSION NR: AT4013982

bracket, and can have a maximum incidence angle of 40° . Remote control is provided to rotate the specimen about the horizontal axis in order to protect the operator. Fine adjustment is achieved by rotation of a handwheel on the receiver selsyn. One revolution of the handwheel produces a 6° rotation of the specimen. Rotation about the vertical axis is performed by the goniometer rotating mechanism. The described attachment permits the determination of the orientation of crystallographic planes (100), (110), (111) in monocrystalline germanium and silicon ingots when the deviation of these planes from the face planes of the ingots does not exceed $6.5; 17; 13^\circ$ and $5; 16; 13.5^\circ$ for germanium and silicon, respectively. After determination of angle α , corresponding to the maximum intensity of reflected rays, a horizontal line is scribed on the ingot along the edge of the rectangular cut-out in the angle bracket. This line is perpendicular to the line of intersection of the face plane with the crystallographic plane. The scribed line on the ingot and the value of angle α determine the orientation for slicing of the ingot in planes parallel to the selected crystallographic plane. The attachment permits handling of ingots 15 — 45 mm in diameter and 100 mm long. In serial work, total errors in determination of orientation are $\pm 15'$. Orientation time for one ingot is 5 minutes, and for checking a slice 2 minutes. Orig. art. has 1 figure.

Card 3/6

BR

ACCESSION NR: AP4013493

S/0181/64/006/002/0390/0392

AUTHOR: Sukhodreva, I. M.

TITLE: Dislocations arising during diffusion of phosphorus in silicon, observed by anomalous passage of x rays

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 390-392

TOPIC TAGS: impurity diffusion, phosphorus, silicon, x ray, BSV 3 x ray tube, GUR 3 goniometer, URS 501 x ray equipment, MK emulsion, NIKFI photographic plate

ABSTRACT: The author is concerned with the possibility of studying the structure of a diffusion layer by anomalous passage of x-rays through the layer. She used samples of silicon cut along the (111) plane and allowed phosphorus to penetrate to a depth of about 100 microns. The surface concentration of phosphorus then proved to be about $2 \cdot 10^{20} \text{ cm}^{-3}$. X-ray photographs were made with Cu radiation from a BSV-3 tube. Immediately after diffusion and removal of the surficial oxide layer, no anomalous passage of x-ray was detected. Destruction near the surface was apparently so great that passage of the wave field was prevented. The surface

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ACCESSION NR: AP4013493

was then etched with a combination of nitric, fluoric, and glacial acetic acids. Characteristic cell structure with point defects was then observed. A net of dislocations was detected, the individual dislocations lying along one of three directions 120° apart, all in the (111) plane. Results show that when P is diffused through dislocation-free silicon (at high concentrations of P), dislocations will develop and will reach deep into the silicon, reaching deeper when the diffusion of P is deeper. (The freedom from dislocation of the initial sample was verified by x-ray study.) Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 18Jul63

DATE ACQ: 03Mar64

ENCL: 00

SUB CODE: SS, EC

NO REF SOV: 002

OTHER: 007

Card 2/2

L 00621-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) LHB/JD

ACC NR: AT6020038

(A)

SOURCE CODE: UR/2564/65/005/000/0338/0343

AUTHOR: Sukhodreva, I. M.

ORG: none

TITLE: The study of the structure of germanium dendrite by the method of anomalous transmission of x rays

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 5, 1965, 338-343

TOPIC TAGS: x ray crystallography, germanium compound, dendrite, crystal structure

ABSTRACT: The present article describes the study of defects and peculiarities of germanium dendrite crystallization by means of anomalous transmission of x-rays (Borrmann effect). In the past such an effect has been observed only in perfect monocrystals. Using the URS-50-1 device with a copper anode BSV-3 tube, the author was able to register the Borrmann effect on dendrite samples which are not monocrystals; this indicates a high degree of perfection in the crystalline structure of dendrite samples under investigation although separate parts of the dendrite strips exhibit characteristic defects. The new method, illustrated by numerous x-ray photographs, allows a fast nondestructive determination of the presence and distribution of various types of defects (dislocations, pores, slipping traces, etc.)

Card 1/2

OSAULENKO, P.L., gornyy inzh.; ROZINOYER, B.L., gornyy inzh.;
SUKHODREV, V.M., gornyy inzh.

Practice of upward drilling of holes in the Kirov apatite
mine. Gor. zhur. no.7:29-31 J1 '63. (MIRA 16:8)

1. Kombinat "Apatit".

SOV/180-59-2-31/34

AUTHORS: Lakomskaya, G.V., and Sukhodrovskaya, K.A. (Moscow)

TITLE: Contribution on the Acidity of Mineral Coals (K voprosu o kislotsnosti iskopayemykh ugley)

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 2, pp 164-167 (USSR)

ABSTRACT: The authors report their work on the study of the pH of coals. The first stage was the development of the method, which has some similarity in principle to that of Jacob (Ref 4). The results for various grades and deposits of coal showed that the pH value can vary over a wide value and is not characteristic of a grade. The pH does not depend on the total ash content, being affected apparently by both the organic and mineral part of the coal. The rate of oxidation of a coal was found to vary with variation in pH and this suggests that the improvement in storage properties obtained by treatment with calcium bicarbonate solution is due to its influence on the pH as well as to its pore-sealing action (Ref 7).

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SOV/180-59-2-31/34

Contribution of the Acidity of Mineral Coals

The work was carried out under the direction of P.K.Mel'.

There are 2 tables and 7 references, 4 of which are
Soviet, 2 German and 1 English.

SUBMITTED: June 28, 1958

Card 2/2

SUKHODROVSKAYA, K.A.; LAKOMSKAYA, G.V.

Significance of coal acidity in determining its content in
determining its content of peroxides. Trudy IGI 14:87-90
'60. (MIRA 13:12)

(Coal--Testing)

(Oxidation)

FRIDMAN, G. Ye.; SUKHODROVSKAYA, K. A.; LAKOMSKAYA, G. V.;
KARAVAYEV, N. M.

Coal carbonization during heating in the presence of water
under pressure. Trudy IGI 17:76-87 '62. (MIRA 15:10)

(Coal—Carbonization) (Water vapor)

SUKHODROVSEI, V. I.

Studying the formation of slopes in cold climate regions. Gen.
noted. obs. po gliats. issl. no. 15:31-44 '57. (MIRA 12:1)
(Mountains)

SUKHODROVSKIY, V.L.

Migrating thermokarst lakes in the Vitim Plateau. Izv. AN SSSR. Ser.
geog. no.6:79-85 N-D '60. (MIRA 13:10)

1. Institut geografii AN SSSR.
(Vitim Plateau--Lakes)

S/ 59/61/000/012/048/039
D228/D305

Two years of

Travis Island. Here two permanent scientific stations were organized: Kapel Charlyanisa (553 m above sea-level) in the alimentation region, and Sedova glacier (61 m above sea-level) in the location region. In addition there were two portable stations: Kapel Dzhoksona (445 m) and Yelony Glacier (20 m). A number of field trips on Sukera and Knyas Islands and the aerovision examination of the archipelago were also made. The following forms of observations were made: the main meteorological observations at the stations; actinometric observations at the stations and en route; gradient observations on the temperature and atmospheric humidity and on the wind velocity on the stations; sporadic hydrometric observations; observations on the accumulation and ablation of snow and ice in snow areas at the permanent stations; drift measurements observations of snow, firn, and ice from 10 hand-bored holes (2 to a depth of 10 m and 17 to one of 5 m) and from 3 mechanically-bored holes

Card 2/4

Two years of ...

S/169/61/000/012/048/083
D228/D305

in connection with the high summer air-temperatures is indicated among the preliminary results of the expedition's work. Data marks, marking the edge of glaciers and permitting the direct measurement of the material balance of the surface over a multi-year period, have been established. The operating scheme of the expedition on Gukera Island is also appended. 6 references. [Abstracter's note: Complete translation 7]

Card 4/4

SUKHODROVSKIY, V.L.

Slope processes in the periglacial zone of the Franz Josef Land.
Izv. AN SSSR. Ser.geog. no.6:85-93 N-D '62. (MIRA 15:12)

1. Institut geografii AN SSSR.
(Franz Josef Land—Landslides)

MARKIN, V.A.; SUKHODROVSKIY, V.L.

Recent data on the contemporaneous glaciation of Franz Josef
Land. Dokl. AN SSSR 148 no.3:658-660 Ja '63. (MIRA 16:2)

1. Institut geografii AN SSSR. Predstavleno akademikom
D.I. Shcherbakovym.
(Franz Josef Land—Glaciers)

SUKHODROVSKIY, V.I.

Influence of the relief of the snow cover on the activity of snow
water in periglacial conditions; based on the example of Franz
Josef Land. Izv. AN SSSR. Ser. geog. nr. 4897-302 J1-Ag '65.
(MIRA 18:8)

1. Institut geografii AN SSSR.

2

CA

The vapor tension of bismuth chloride and bismuth bromide. E. A. ESKVICH
AND V. A. SUKHODOLZ *J. Russ. Phys. Chem. Soc.* 61, 1544 (1959) The vapor ten-
sion curves for BiCl₃ and for BiBr₃ were obtained as well as their resp. h. ps. V. V.

ASAC 11.4 METALLURGICAL LITERATURE CLASSIFICATION

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

31

Ca

PROCESSES AND PROPERTIES INDEX

Conditions of formation and certain properties of zinc nitride. V. A. Sukhodskii and K. M. Gorbunova. *J. Gen. Chem.* (U. S. S. R.) 4, 687-93 (1934).—The products of condensation of Zn vapor in N_2 , or of passing NH_3 through molten Zn at 600° , contain only traces of Zn_3N_2 , 5-40% yields of which are obtained from Zn dust and NH_3 at 550° . The heat of formation of Zn_3N_2 is 24,060 g.-cal. * 28%. The dissocn. const. of Zn_3N_2 was calcul. from Nernst's equation for the range $37-537^\circ$. B. C. A.

ASH-15A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CROISS

31

ca

9

Thermal data on the condensation of zinc vapors. V.
A. Sukhoriskii and K. M. Goshunova. *J. Applied Chem.*
S. S. R.) 7, 1108 12(1934).—A review with 11
references. A. A. Bochtlingk

ASRSLA METALLURGICAL LITERATURE CLASSIFICATION

*On the Electrodeposition of Binary Alloys [Brass]. V. A. Sukhodskiy, V. L. Heyfets, and J. N. Chapurskiy (*Sovetskaya Zentralnaya Institut Metallurgii (Communist. Central Inst. Metals)*, 1934, (17), 240-246). (In Russian.) The cathode and anode potentials in the tartaric acid brass plating bath were measured at various concentrations and current densities. The difference between the deposition potentials of the copper and zinc decreases with decrease in current density and with dilution, potential equalization occurring mainly at the expense of the copper potential.—N. A.

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

CIA-RDP86-00513R001653810020-5"

127

PROCESS AND PROPERTIES INDEX

6

*On Lead-Plating. V. A. Sukhol'skiy, V. I. Heyfer, and J. V. Wainer
(*Sukhol'skiy, V. I. Heyfer, and J. V. Wainer*).
(*Sukhol'skiy, V. I. Heyfer, and J. V. Wainer*).
1936, (18), 231-239. —[In Russian.] In lead cresolsulphonate solutions the
cathode polarization is determined by the presence of active tars introduced
with the acid. Up to a definite concentration of lead ions, evolution of hydro-
gen occurs and a spongy deposit is formed at high current densities; with
increase in current density a greater concentration of lead is necessary for
smooth deposits. Cresol- and phenolsulphonate baths give good micro-
crystalline deposits with 100% current efficiency. — N. A.

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

127

Sukhodskiy, V.A.

AUTHOR: Oskitsky, S.V.

TITLE:

PERIODICAL: Scientific Conference on the Metallurgy, Chemistry and Electrochemistry of Titanium

ABSTRACT: The conference took place on January 14-20 1960 in Moscow in the Institute of Metallurgy, Academy of Sciences, USSR. It was organized by the Committee for Coordination of Scientific Research on Titanium. About 400 representatives of academic and research institutions and workers participated in the conference. The conference was divided into four sections: 1) raw materials and smelting of ores; 2) chemical technology and chlorination; 3) electrothermic methods of smelting titanium; and 4) electrolysis. The following papers were read:

Metallurgical evaluation of some new deposits (R.P. Dmitriyevskiy); State and prospects of improving the technology of smelting of titanite concentrates (V.A. Reznichenko and V.I. Solov'yev);

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Thermodynamic investigations of titanium compounds (P. Enilov and V.A. Reznichenko); An investigation of the process of reduction of iron-titanium concentrates with carbon (M.B. Rapoport); Some hydrodynamic and kinetic features of the process of chlorination of titanium dioxide in molten chlorides (M. Manarin); Oxidation of titanium tetrachloride with oxygen (G.B. Morozov, M. Kabanov, V.A. Reznichenko); Utilization of titanite concentrates for the production of titanium dioxide pigments by the sulphuric acid method (M.A. Barodina, S.B. Shvartsin, V.A. Golovany); An investigation of some properties of the system $FeCl_3 - AlCl_3 - FeCl_2$ (M.A. Druzhinina); A investigation of phase equilibria liquid-vapor in systems formed by titanium tetrachloride with chloroacetylene, $CH_2=CHCl$ and trichloroacetic acids (G.V. Sorokov, S.I. Vozno and S. Bidorina); Determination of the activity coefficient of carbon in titanium tetrachloride (G.V. Sorokov, S.A. Vaks, I.M. Golovany); Basic conditions for standardised

Card 2/3

results of the process of production of titanium by the magnesium thermite method (S.V. Oskitsky, V.A. Reznichenko, V.K. Ustinov, V.I. Kozhennikov, I.I. Dedkov); On the two stage method of production of titanium by the sodium thermite method (V.A. Reznichenko, S.V. Oskitsky); Production of a high purity titanium (V.I. Batashev); The influence of the content of chlorine in a high purity titanium sponge on the process of smelting and on the quality of the metal produced (G.M. Vysotskiy); The production of titanium and its alloys by refining of black-oxides (Academician I.P. Bardina, A.B. Korotkov, V.I. Solov'yev); On the theory of refining of titanium (V.A. Reznichenko); Electrolysis of titanium by electrolysis of titanium fluoride in fluoride-chloride melts (I.P. Bardina, A.B. Korotkov); Electrolytic production of titanium from chloride-chloride melts (V.M. Loffe, M.M. Rozanov, N.A. Lyubimova); Electrolytic refining of titanium waste products (V.M. Loffe, N.A. Lyubimova, M.M. Rozanov); and a number of other reports, tables or references.

Card 3/3

S/180/60/000/004/009/027
E111/E452

Contribution on the Electrolytic Refining of Titanium

electrolytes are shown in Table 4. The author concludes that the reason for primary deposition of metallic titanium on the electrolyser walls in electrolysis of sodium chloride is the $\text{Ti}^{+++} + 2\text{Na}^{\circ} = \text{Ti}^{\circ} + 2\text{Na}^{+}$ reaction; sodium appears because it is reduced at the cathode. At the anode both solution of titanium and oxidation of sodium occur. During electrolytic refining, metallic lithium and potassium are present in the bath. There are 1 figure, 4 tables and 6 English references.

SUBMITTED: April 29, 1960

Card 2/2

SUKHODSKIY, V.A.; TSYPLAKOVA, M.M.

Effect of the central layer of electrolyte on the indices of
the titanium electrorefining process. Titan ~~l~~ ego splavy
no.8:237-241 '62. (MIRA 16:1)
(Titanium—Electrometallurgy) (Fused salts)

ACCESSION NO. A14-412

S. 101. 03. 000. 016. 0105/0109

AUTHOR: Sukoyuzov, P. G.

10
101

... for the ... account in barometric

...

... barometric

... data on

... observations

101 / 12

1 2462-63

ACCESSION NR: AT4049520

METLITSKIY, Z.A.; SUKHOIVANENKO, N.G.; NIKIFOROVA, G.V.

Thinning of apple flowers with the aid of DNOK compound [ammonium derivative of dinitroorthocresol], Kons. i ov. prom. 14 no.5:24-25
My '59. (MIRA 12:6)

1.Moskovskoye otdeleniye Vsesoyuznogo instituta rasteniyevodstva (for Metlitskiy). 2.Sovkhoz im. Timiryazeva (for Sukhoivanenko).
(Apple) (Fruit thinning) (Cresol)

STEFANOV, A.P.; SUKHOIVANENKO, P.Ya.

Photographic determination of the integral brightness of the solar
corona of June 30, 1954. Astron. tsir. no.156:6-8 Ja 5 (MIRA 8:10)
(Sun--Corona)

34506
S/169/62/000/002/059/072
D228/D301

3.1810
AUTHORS:

Ivanchuk, V. I. and Sukhoivanenko, P. Ya.

TITLE:

Luminescence of hydrogen and helium in auroras

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 2, 1962, 20; abstract 2G135 (Mezhdunar. geofiz. god. Inform. byul. no. 3, 1961, 35-38)

TEXT: Auroral spectra were obtained in 1958 near Tiksi Bay. An $C\text{II}-48$ (SP-48) spectrograph was used in the observation. The spectral interval 4700 - 6600 Å was investigated. The spectrograph was mounted immovably, in the direction of the magnetic zenith. In a first approximation the resulting spectra may be divided into two groups in accordance with the classification proposed by Yu. I. Gal'perin (RZhGeofiz, no. 6, 1957, 5554): 1) "atomic", in which the atomic lines NI, NII, and OI and the Balmer lines H_{α} and H_{β} prevail; and 2) "molecular", in which the N_2^+ and $N_2O_2^+$ molecular bands

Card 1

3,1810

S/169/62/000/³⁹⁰⁹⁶006/078/093
D228/D304

AUTHOR: Sukhoivanenko, P. Ya.

TITLE: Doppler proton velocities according to observations of H_3 emission in auroras

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 22, abstract 6G135 (V sb. Polyarn. siyaniya i svecheniye nochn. neba, no. 7, M., AN SSSR, 1961, 7-13)

TEXT: The analysis of auroral spectra is given; these were obtained at a geophysical station in Tiksi Bay by means of $CH-43$ (SP-48) and SP-49 spectrographs. Hydrogen emissions were investigated, and the spectral velocity characteristics, which may be ascribed to protons injected into the atmosphere's upper layers, were determined. The H_3 line appeared to be the most convenient for investigation. The observational data of the Doppler contours of H_3 obtained by the author are tabulated. It is evident from the table that violet shift of the H_3 contour line's maximum comprises 3 - 7 Å. According
Card 1/2

Country : USSR

M

Category: Cultivated Plants. Grains.

Abs Jour: RZhBiol., No 11, 1958, 48845

Author : Sukhoivanov, V.A.

Inst : Sci. Res. Inst. of Agriculture of the Central
Chernozem Belt

Title : Application of Organic-Mineral Mixtures Under the
Winter Cultures.

Orig Pub: Byul. nauchno-tekhn. inform. n.-i. in-ta s. kh.
TSCHP, 1956, No 1, 17-20

Abstract: In 1951-1954, the V.V. Dokuchayev Institute of
Agriculture developed methods of utilizing small
doses of raw humus (6-8 cent/ha) in applying it
together with the mineral fertilizers (1.5 cent/ha)

Card : 1/2

SUKHOIVANOV, V.A., kand.sel'skokhozyaystvennykh nauk; MUKHIN, V.G.

Side dressing of winter crops. Zemledelie 24 no.7:42-46
Jl '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva
TSentral'no-chernozemnoy polosy imeni V.V. Dokuchayeva.
(Central Black Earth region—Wheat—Fertilizers and manures)

PANOVA, L.N.; SUKHOLET, A. Yu.

Determination of the average degree of polymerization of cellulose
and of its fractional content under plant laboratory conditions.
Khim.volok. no.5:69-70 '60. (MIRA 13:12)

1. TSentral'naya zavodskaya laboratoriya Kalininskogo kombinata.
(Cellulose) (Polymerization)

SHEYKO, T.I.; SUKHOLET, A.Yu.

Ways for reducing sulfur content of stock dyed spun rayon
fibers. Khim. volok. no.3:70-71 '63. (MIRA 16:7)

1. Kalininskiy kombinat iskusstvennogo volokna.
(Rayon) (Sulfur)

SUKHOLETOV, E.E.

Sampling device for trace-metal surveying. Inform. sbor. VSEGEI
no. 4:128-131 '56. (MLRA 10:4)
(Prospecting) (Boring machinery)

SUKHOLUTSKIY, G.M., inzh.; CHERKAS, A.I., inzh.

Applying reusable metal casings in laying concrete foundations.
Prom. stroi. 36 no.11:6-8 N '58. (MIRA 12:1)
(Foundations)

SUKHOLUTSKIY, N.I., inzh.

Ventilation of underground workings in the mining of shell rock.
Trudy NIIMesttoproma no.17:177-183 '62. (MIRA 16:5)
(Mine ventilation)

GINZBURG, A.I.; NAZAROVA, A.S.; SUKHOMAZOVA, L.L.

Nigerite from Siberian permatites. Geol.mest.red.elem. no.9:
61-67 '61. (MIRA 14:9)
(Siberia--Nigerite) (Siberia--Pegmatites)

OVSISHCHER, Petr Il'ich; KOCHKINA, Nadezhda Nikolayevna; SHATS, S.Ya.,
kand. tekhn. nauk, retsenzent; MARTYNOV, A.P., inzh., retsenzent;
SUKHOMEKHOV, V.P., nauchnyy red.; CHICHKANOVA, V.S., red. izd-va;
KONTOROVICH, A.I., tekhn. red.; KRYAKOVA, D.M., tekhn. red.

[Handbook on transistor diodes and triodes] Spravochnik po polu-
provodnikovym diodam i triodam. Leningrad, Gos. soiuзное izd-vo
sudostroit. promyshl., 1961. 239 p. (MIRA 14:8)
(Transistors—Handbooks, manuals, etc.)

SUMMEL, G. I.

On varying flow in open streams and structures on them Kyiv, Akad. nauk URSR, 1938.
138 p. Akademia nauk URSR. Instytut vodnoho hospodarstva)

SUKHOMEL, G. I.

Dvizheniye vody cherez vodosliv s shirokim porogom "Gidrotekhnicheskoye Stroitel'stvo"
No. 1, 1948

SUKHOVEL, G. I.

Sukhovel, G. I. "On two possible forms of movements of a supersonic flow through a pipe from a laval jet," Investiya kiyevsk. politikh. in-ta, Vol VIII, 1949 (On cover 1949), P. 103-06

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

SUNGBEL, A. I.

36632. SUNGBEL, A. I. i TSVETKOV, P. E. Rezul'taty eksperimental'nogo
Issledovaniya Tverdogo Tacheniya Lody v Shirokoi Viskoznoi Srede. Izvestiya In-ta
Gidrologii i Gidrotekhniki (Akad. Nauk Ukr. SSR), T. V, 1949, c. 3-12. - Na Ukr. Yaz. -
Rezyume Na Rus. Yaz. - Bibliogr: 5 izv.

50: Ictopis' Zhurnal' yuzh Statey, Vol. 50, Moskva, 1949